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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,607	09/08/2000	Dan Dean Christensen	06005/36805	3347

7590 07/30/2004

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EXAMINER

PATEL, NIKETA I

ART UNIT PAPER NUMBER

2182

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/658,607

Applicant(s)

CHRISTENSEN ET AL.

Examiner

Niketa I. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/20/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-21, 23 and 25-36 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 22 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/2/04, 5/10/02
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I (claims 1-36), in the reply filed on 04/20/2004 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims **1-3, 6, 9-12, 16-21, 26-36** are rejected under 35 U.S.C. 102(b) as being anticipated by Perreault et al. U.S. Patent Number: 5,793,307 (hereinafter referred to as "Perreault".)

4. Referring to claims **1, 16, 17, 26, 27 and 32**, Perreault teaches a communication control device, a communication system, a method for periodically sending probe messages [see column 6 - lines 30-36, 'poll'], one at a time, via a communication bus to a plurality of device addresses to detect the presence of devices located on the bus at the device addresses [see column 6

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- lines 30-59 and column 20 - lines 46-56], the communication control device comprising: a processor [see figure 1 - element 10]; a memory [see column 6 - lines 30-36]; a first address list containing a first set of device addresses [see column 6 - lines 30-36, 'database of active secondary stations']; a second address list containing a second set of device addresses [column 6 - lines 30-36, 'database of unresponsive secondary stations']; a third address list containing addresses reserved for communication control devices [column 6 - lines 30-36, 'database of idle secondary stations']; and a routine stored in the memory and adapted to be executed by the processor to select the plurality of device addresses to which a probe message will be sent from among the first, second and third address lists [see column 6 - lines 43-57], wherein the routine causes each device address in the third address list to be selected more frequently than each of the device addresses in the first and second address lists [see column 10 - lines 4-18 and column 19 - lines 15-43.]

5. **Referring to claims 2, 19, 28, 33,** *Perreault* teaches the communication control device wherein the routine comprises a first routine, and further including a second routine stored in the memory and adapted to be executed by the processor, wherein the second routine is further adapted to send probe messages to

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each of the device addresses selected from the first, second and third address lists to determine whether a device is located at each of the selected device addresses [see column 20 - lines 46-56.]

6. **Referring to claims 3, 18,** *Perreault* teaches the communication control device of claim 1, wherein the routine comprises a first routine, and further including a second routine stored in the memory and adapted to be executed by the processor, wherein the second routine is adapted to send a probe message to each device address selected from the third address list [see column 8 - lines 63-67 and column 9 - lines 1-25], and wherein the second routine is further adapted to cause the communication control device to relinquish control of the bus upon receiving a response to a probe message sent to a device address selected from the third address list [see column 8 - lines 63-67 and column 9 - lines 1-25.]

7. **Referring to claims 6, 21, 29, 31, 34,** *Perreault* teaches wherein each of the first, second and third address lists contains a maximum number of device addresses and wherein the maximum number of device addresses contained in the third address list is less than the maximum number of device addresses contained in the first address list and is less than the maximum

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number of device addresses contained in the second address list

[see column 19 - lines 15-21.]

8. **Referring to claim 9**, *Perreault* teaches wherein a frequency at which any device address in the third address list is selected is sufficient to prevent a set of active devices that are coupled to the communication bus from reaching a fault condition in the event that communication on the bus is temporarily interrupted [see column 11 - lines 20-37.]

9. **Referring to claim 10**, *Perreault* teaches wherein the first address list contains device addresses reserved for addresses of permanent devices [see column 5 - lines 29-38 and column 6 - lines 30-36.]

10. **Referring to claim 11**, *Perreault* teaches wherein the second address list contains device addresses reserved for addresses of temporary devices [see column 5 - lines 29-38 and column 6 - lines 30-36.]

11. **Referring to claim 12**, *Perreault* teaches wherein the communication control device comprises a link master device [see column 5 - lines 29-38 and column 6 - lines 30-36.]

12. **Referring to claim 20**, *Perreault* teaches wherein the first address list further comprises a third address list wherein the third address list contains a second set of device addresses [see column 6 - lines 30-36, lines 43-57], and wherein the

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second routine is further adapted to cause each of the device addresses contained in the second address list to be selected more frequently than each of the device addresses stored in the first address list and stored in the second address list [see column 10 - lines 4-18 and column 19 - lines 15-43.]

13. **Referring to claim 30**, *Perreault* teaches wherein the steps of selecting a device address from each of the first, second and third address lists includes the step of selecting each device address in a sequential order with rollover relative to the other device addresses in that list [see column 8 - lines 63-67 and column 9 - lines 1-25.]

14. **Referring to claim 35**, *Perreault* teaches wherein the first address list comprises a plurality of address lists [see column 8 - lines 48-62.]

15. **Referring to claim 36**, *Perreault* teaches wherein the step of selecting the device addresses from the first address list and the second address list further comprises the step of selecting each device address in a sequential order with rollover relative to the other device addresses selected from that list [see column 8 - lines 63-67 and column 9 - lines 1-25.]

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16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims **4-5, 13-15, 23 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Perreault et al. U.S. Patent Number: 5,793,307 (hereinafter referred to as "*Perreault*".)

18. **Referring to claim 4**, *Perreault* teaches the communication control device wherein the address list may contain any number of devices [see column 19 - lines 15-21] however does not set forth the limitation that the third address list contains a maximum of two device addresses.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well known in the computer art to get the advantage of having address list that reflects the address of number of devices which are connected for proper functionality of the system. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include device addresses to reflect number of device that are connected to the system.

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19. **Referring to claim 5**, *Perreault* teaches the communication control device wherein the address list may contain any number of devices [see column 19 - lines 15-21] however does not set forth the limitation that the third address list contains a maximum of three device addresses.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well known in the computer art to get the advantage of having address list that reflects the address of number of devices which are connected for proper functionality of the system. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include device addresses to reflect number of device that are connected to the system.

20. **Referring to claim 13**, *Perreault* teaches a use of various control devices [see column 5 - lines 29-38] however does not set forth the limitation wherein the link master device comprises a hand-held link master device.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well known in the computer art to get the advantage of providing user with hand-held device in order to increase mobility and flexibility of system access. It would have been obvious to one

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of ordinary skill in the art at the time of applicant's invention to include a hand-held device to get this advantage.

21. **Referring to claim 14**, *Perreault* teaches a use of various control devices [see column 5 - lines 29-38] however does not set for the limitation wherein the link master device comprises a back-up link master device.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well know in the computer art to get the advantage of providing user with a back-up master device to allow user to have access to the system in an event when the primary master fails. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include a back-up master device to get this advantage.

22. **Referring to claim 15 and 25**, *Perreault* teaches a use of various control devices [see column 5 - lines 29-38] however does not set for the limitation wherein the communication control device comprises a Fieldbus device and wherein the second routine uses a Fieldbus communication protocol.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well know in the computer art to get the advantage of providing user with a Fieldbus device and a Fieldbus communication

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protocol to increase overall system performance and flexibility. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include a Fieldbus device and a Fieldbus communication protocol to get this advantage.

23. **Referring to claims 23**, *Perreault* teaches the communication control device wherein the address list may contain any number of devices [see column 19 - lines 15-21] however does not set forth the limitation that the second address list contains a maximum of two device addresses.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well known in the computer art to get the advantage of having address list that reflects the address of number of devices which are connected for proper functionality of the system. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include device addresses to reflect number of device that are connected to the system.

Allowable Subject Matter

24. Claims 7, 8, 22 and 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

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independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents have been made record of to further show the state of the art as it pertains to probing field bus devices:

Joshi et al. U.S. Patent Number: 6,006,017

Glanzer et al. U.S. Patent Number: 6,424,872

Nelson et al. U.S. Patent Number: 4,763,323

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Niketa I. Patel whose telephone number is (703) 305 4893. The examiner can normally be reached on M-F 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (703) 308 3301. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NP
07/20/2004



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